Unibraze 309LMo-T1

All Position

Classification:

AWS A5.22. E309LMoT1-1/4

Description:

Unibraze 309LMo-T1 is a gas-shielded, flux cored, stainless steel electrode designed to weld in all positions. It has a nominal weld metal composition of 24% chromium and 13% nickel with a maximum carbon content of 0.04%. The welds contain comparatively much more ferrite in their austinetic, therefore they provide better weldability together with superior heat resistance and corrosion resistance.

Characteristics:

Unibraze 309LMo-T1 provides superb performance characteristics in all positions, using either CO_2 or argon + 20-25% CO2 shielding gas. . Shielding gas mixtures with more than 75-80% argon are not recommended. Flat, well washed beads can be achieved with minimal weaving. Spatter is very low and slag peeling is excellent, minimizing cleanup. DCEP Reverse Polarity.

Applications:

Unibraze 309LMo-T1 finds application in the welding of refinery and chemical processing equipment. It is used to weld dissimilar materials such as mild steels and low alloyed QT steels, ferritic Cr and austenitic Cr-Ni steels, and manganese steels. Also used as the first layer of corrosion resistant weld claddings on ferritic-perlitic steels in boiler and pressure vessel parts up to fine grained steel S500N

Typical Mechanical Properties: (CO_2)*

Ultimate Tensile Strength (psi)	85,100
Yield Strength (psi)	66,900
Percent Elongation	30 %

* Strength levels will be slightly higher w/Ar+20-25% CO_2

Typical Weld Deposit Chemistry: (CO_2)

C - 0.03 Mn - 0.95 Cr - 24.0 Si - 0.80 Ni - 13.50 Mo – 2.5

Ferrite Number (WRC, 1992) – 18

Typical Welding Parameters: (CO_2)**

Diameter	WFS (ipm)	Amperage	Voltage	ESO (in.)	Dep. Rate (lbs/hr)
.045"	250	130	24	5/8-3/4"	5.4
.045"	**300**	**160**	**26**	**5/8-3/4"**	**6.3**
.045"	**425**	**200**	**28**	**5/8-3/4"**	**9.2**
.045"	780	270	34	5/8-3/4"	16.2
1/16"	150	170	25	3/4-1"	5.4
1/16"	**195**	**215**	**27**	**3/4-1"**	**7.0**
1/16"	**240**	**250**	**28**	**3/4-1"**	**8.6**
1/16"	320	305	29	3/4-1"	11.5

** Optimum conditions are in boldface type. Reduce by 2 volts when using Ar+20-25% CO_2.